ACCELERATED CONSTRUCTION TECHNOLOGIES

QUESTIONNAIRE FOR CONTRACTORS

General Program Level Issues

1. Does the contracting industry (individual companies or through organizations such as the AGC) typically provide input into the pre-construction phases for accelerated construction projects? If so, do contractors submit ideas for accelerating construction or do contractors only provide comments on DOT proposals regarding construction acceleration approaches?
2. What issues and topics do contractors address and analyze when involved in the pre-construction phases of accelerated projects (e.g., traffic management, construction zone traffic, phasing and construction sequencing)?
3. What are the principal back-up and emergency strategies that contractors consider for accelerated construction projects (e.g., additional key equipment, back-up concrete plant, back-up energy supply unit, back-up extra work schedules, DOT organization prepared to make decisions 24-7.)? Under what circumstances are back-up and emergency strategies typically implemented?

CONTRACTING STRATEGIES

1. What project delivery/contracting approaches (traditional, A+B, lane rental, design-build) do contractors prefer for these types of projects. Can you provide definitive reasons for contractor preferences?
2. If an incentive/disincentive (I/D) clause is used in an accelerated construction project contract, what I/D amounts are considered appropriate for motivating the contractor to accelerated construction? What should DOTs consider when setting I/D amounts?
3. How do project delivery/contracting approaches impact the contractor's project schedule and plan? Resource utilization approach? Material staging design?
4. Do contractors have quality problems due to the project delivery/contracting approach used to accelerate construction? Explain. Could these problems be mitigated using a different project delivery/contracting approach to accelerate construction? Which ones?
5. For projects your company has experience with, would a different project delivery/contracting approach have been better suited for the project and why?

PLANNING AND SCHEDULING

Pre-Construction Questions

1. Considering your experiences, did the agency provide the contractor a suggested sequence of construction for the accelerated construction project? What was your assessment of the suggested sequence of construction?
2. What critical constraints and restriction are contemplated when your company develops its schedule and plan for an accelerated construction project (traffic volumes, staging areas, haul routes and access areas)?

3. What affected your phasing sequence decision process for planning accelerated construction (e.g., time, material handling, and allowance for work flexibility)?
4. Was your accelerated construction plan based on the DOT suggested sequence of construction? If not, what were the main differences?

Post-Construction Questions

1. What work schedule did you employ for the accelerated construction projects (continuous day work, night work, and weekends)? Are your schedules different from the ones proposed by the agency? If so, why and how?
2. What project phasing flexibility could have been allowed by the DOT to improve the construction acceleration effort? What issues would have to be addressed to prepare such an accelerated construction plan prior to the start of construction?

CONSTRUCTION PRACTICES

Pre-Construction Questions

1. What are the primary factors affecting the planned production rates to support accelerated construction (e.g., phasing, traffic, day-work schedule, methods, equipment, work zone, staging areas)? How are these factors influenced by DOT specifications? If so, what are the impact on planned production rates?
2. What type of innovations are most important to contractors for accelerating a project:
    - Material storage location
    - Material access to site (including plants for concrete and asphalt)
    - Materials placed
    - Construction methods and techniques
    - Technology approaches
    - Construction equipment to support the accelerated construction effort
    - Processes (planning, scheduling control, production rate estimation, etc)
3. From your experience do the agencies specify the methods and techniques to be followed in their accelerated projects? Is the contractor allowed to participate in the decision making process regarding the selection of methods and techniques?
4. To what extend does project design affect the selection of methods and techniques to support accelerated construction? Is the contractor typically allowed to propose alternate designs?
5. What were the principal back-up and emergency strategies that contractors considered for accelerated construction projects (e.g., additional key equipment, back-up concrete plant, back-up energy supply unit, back-up extra work schedules)? Under what circumstances are these back-up and emergency strategies implemented on your projects?

Post-Construction Questions

1. Have your accelerated construction projects been successful? Why? What were the main contributing factors to success?
2. What are the types of constructibility related problems typically encountered during an accelerated construction project?
3. What methods and techniques do contractors employ to gain efficiency during accelerated construction?
4. What are the main problems encountered while accelerating construction? What are the impacts resulting from these problems (e.g., time and cost impacts, traffic delays, affected areas)?
5. What are the corrective actions taken to mitigate the impacts of these problems?
6. Could these problems have been avoided? If so, how?
7. From your experience, would you as a contractor now use different methods and techniques for the accelerated construction projects? Which ones and why would a contractor use them?